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EXAMINER

ABDULSELAM, ABBAS I

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2674

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/726,721	Applicant(s) KAZUHIRO NAKAMIGAWA	
	Examiner Abbas I Abdulsalam	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed on 09/07/04 have been fully considered but they are not persuasive.

Applicant argues that the cited references, Takita et al. (USPN 6151005), Komo (USPN 6490013) and Hashimoto et al. (USPN 5990940) individually or in combination do not teach “a selector for choosing and outputting a signal inverted by said inventor and said digital image input signal depending on a switching signal”. Komo discloses that a differential output amplifier (73) outputs a non-inverted signal, a' and an inverted signal b' via a first buffer 74 and a second buffer (75) respectively. See col. 9, lines 38-55 and Fig. 5. Furthermore, Komo teaches an RGB driver processing circuit (70) as shown in Fig. 5 including a multiplexer (82) alternately selecting a non-inverted signal (a) and inverted signal (b) based on a inversion control signal. See col. 9, lines 50-55. Referring the same Fig. 5, Komo illustrates a multiplexer (82) with a switching terminals alternately selecting a non-inverted signal (a) and inverted signal (b) both of which are outputs from a differential output amplifier 73 buffers (74 75). Therefore, it would have been obvious that the multiplexer (82) selects a signal inverted by the amplifier (73) and hence has the same functionality as the desired selector.

Applicant also argues that the cited references individually or in combination do not teach a microprocessor or a dual in-line package switch outputting a switching signal for inputting the switching signal to the selector depending on the liquid crystal panel. However as mentioned in the art rejection below, Hashimoto teaches changeover switches SW4, SW5, SW6 and SW7 simultaneously open or close in response to a common switching signal Sd which is

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output from the microprocessor (11). See Fig. 2. Moreover, Takita teaches driving a liquid crystal panel, and as modified with komo discloses RGB driver processing circuit (70), which includes amplifier (73) for inversion of signals as illustrated in Fig. 5 and as utilized in the LCD structure of Fig. 3. It would have obvious to utilize Komo's signal inversion (73) that is utilized in LCD with respect to Hashimoto's microprocessor, which outputs switching signal. Because both Takita as modified with Komo, and Hashimoto teach about display devices and one of ordinary skill in the art would have looked toward Hashimoto for the manner by which signals are processed.

Applicant argues with respect to claim 8 that the cited references alone or in combination do not teach " plural gradation power sources which are prepared corresponding to types of liquid crystal panels and are selected depending on the liquid crystal panels to be used". However as mentioned in the art rejection below, Takahara teaches the use of plural power sources as shown in the abstract. Takita teaches also a liquid-crystal panel (1013) along a power source circuit (1015) for liquid-crystal displays as shown in Fig. 24. Takita also teaches that devices for a plurality of panels are simultaneously fabricated on a single glass substrate and are thereafter split in order to enhance throughput. Takita further teaches that when the size of the panel PNL is large, a glass substrate having a size applicable to all kinds of panels is prepared and is thereafter reduced to sizes conforming to the respective kinds of panels. See col. 44, lines 9-18 and Fig. 47. Therefore, it would have been obvious to one of ordinary skill in the art to utilize Takita's powering of displays and manufacturing of multiple display panels along with Takahara's use of multiple use of plural power sources for the purpose of configuring power sources with respect to plurality of display panels.

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In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Claim Rejections 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takita et al. (USPN 6151005) in view of Komo (USPN 6490013) Hashimoto et al. (USPN 5990940).

Regarding claim 7, Takita teaches driving a liquid crystal panel in which an input and an output are configured with a buffer and correction circuits. Takita teaches a group of invertor circuits (3806) for inverting a display data, the inverted data generated (3807), a voltage selector (3712), selector elements (3804), switching elements (SWL), and a voltage divider circuit, which is supplied, with the output signal of the gate circuit. Takita also teaches that the voltage divider circuit that selects and delivers the voltage and the gate circuit that corrects a signal

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corresponding to the display data. See col. 2, lines 12-21 and Fig 38. In addition, Takita teaches a selection of power source voltage, V_{cc} & V_{ss} , by switching a selecting element. (4104). See col. 42, lines 39-49, Fig 41, and Fig 42. Furthermore, Takita teaches a switching element (SWLO, to SWL3 and SWR0 to SWR3), and indicates a switching element in terms of an operating voltage width equal to the width of the power source voltage. See col. 2, lines 15-21, col. 6, lines 34-38 and Fig 38.

However, Takita does not teach the inventor-selector configuration and with the inverter inverting a digital input signal such that the selector chooses either the inverted signal or the digital image input signal. Komo on the other hand discloses that a differential output amplifier (73) outputs a non-inverted signal, a' and an inverted signal b' via a first buffer 74 and a second buffer (75) respectively. See col. 9, lines 38-55 and Fig. 5. Furthermore, Komo teaches an RGB driver processing circuit (70) as shown in Fig. 5 including a multiplexer (82) alternately selecting a non-inverted signal (a) and inverted signal (b) based on a inversion control signal. See col. 9, lines 50-55.

Therefore, it would have been obvious to one having a skill in the art at the time the invention was made to modify Takita's liquid crystal display system to adapt Komo's multiplexer (82) as configured in Fig. 5. One would have been motivated in view of the suggestion in Komo that the amplifier (73) equivalently performs the desired inversion of a signal, and the multiplexer (82) is functionally equivalent to the desired selector. The use of a multiplexer (82) and amplifier helps function driving circuits of a liquid crystal display system as taught by Komo.

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Takita does not teach “a microprocessor outputting a switching signal for inputting the switching signal to the selector”. Hashimoto on the other hand teaches changeover switches SW4, SW5, SW6 and SW7 simultaneously open or close in response to a common switching signal Sd which is output from the microprocessor (11). See Fig. 2.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takita’s display system to incorporate Hashimoto’s microprocessor (11). One would have been motivated in view of the suggestion in Hashimoto that the microprocessor (11) is equivalent and performs identical function as the desired microprocessor. The use of a microprocessor helps an adjustment system of video monitors used as display terminals of computer systems, as taught by Hashimoto.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takita and Komo, Hashimoto and in further view of Takahara et al. (USPN 5196738).

Takita as modified has been discussed above. However, Takita does not teach the use of an LCD including plural gradation power sources which are prepared corresponding to types of liquid crystal panels. Takahara on the other hand teaches plurality of power source voltage terminals having respective, different potential (voltage) levels, and an output terminal for providing a voltage to a display panel according to voltages applied through the voltage terminals. See col. 1, lines 38-50.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Takita’s liquid crystal system to include Takahara’s

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plurality of power source terminals. One would have been motivated in view of the suggestion in Takahara that the plural power source terminals equivalently satisfy the desired plural power sources. The use of plural power source terminals helps function a liquid crystal display system as taught by Takahara et al.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abduselam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

Art Unit 2674

December 29, 2004


XIAO WU
PRIMARY EXAMINER